

DAYANANDA SAGAR UNIVERSITY

KUDLU GATE, BANGALORE – 560114



**Bachelor of Technology
in
COMPUTER SCIENCE AND ENGINEERING
DBMS Mini Project**

(PROJECT COLLABORATION MANAGEMENT)

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(2023-2024)



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CERTIFICATE

This is to certify that the Mini project titled “**PROJECT COLLABORATION MANAGEMENT**” is carried out by **Harshyara Bukkapatnam (ENG21CS0085), Bhumika Mallapur (ENG21CS0077), Deepa S(ENG21CS0110), D Akshitha(ENG21CS0102)**, bonafide students of Bachelor of Technology in Computer Science and Engineering at the School of Engineering, Dayananda Sagar University, Bangalore in partial fulfilment for the award of degree in Bachelor of Technology in Computer Science and Engineering, during the year **2023-2024**.

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Name of the Examiner

Signature of Examiner

1.

2.

DECLARATION

We, **Harshyara Bukkapatnam(ENG21CS0085), Bhumika Mallapur (ENG21CS0077), Deepa S(ENG21CS0110), D Akshitha(ENG21CS0102)**, are students of the fifth semester BTech in **Computer Science and Engineering**, at School of Engineering, **Dayananda Sagar University**, hereby declare that the Mini project titled “**PROJECT COLLABORATION SYSTEM**” has been carried out by us and submitted in partial fulfilment for the award of degree in **Bachelor of Technology in Computer Science and Engineering** during the academic year **2023-2024**.

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Place: Bangalore

Date:19-12-2023

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We owe our deep gratitude to **our guide Prof. Pooja Goud** for guiding us all along, till the completion of our project work by providing all the necessary information for the successful completion of our mini project work.

We are thankful to, and fortunate enough to get constant encouragement, support and guidance from all Teaching staffs of the Computer Science Engineering department, which helped us in successfully completing our report. Also, we would like to extend our sincere esteem to all staff in laboratory for their timely support.

TABLE OF CONTENTS

	Page No
LIST OF FIGURES	6
CHAPTER 1 INTRODUCTION.....	7
1.1 PROBLEM STATEMENT.....	8
1.2 OBJECTIVES.....	9
CHAPTER 2 REQUIREMENTS	
2.1. HARDWARE REQUIREMENTS	10
2.2. SOFTWARE REQUIREMENTS	10
CHAPTER 3 SYSTEM DESIGN.....	
3.1 E/R DIAGRAM.....	11
3.2 SCHEMA.....	12
CHAPTER 4 SYSTEM IMPLEMENTATION.....	13-15
CHAPTER 5 OUTPUT RESULTS	16-18
CHAPTER 6 CONCLUSION.....	19

LIST OF FIGURES

Fig. No.	Description of the figure	Page No.
3.1	E/R DIAGRAM	11
3.2	SCHEMA	12
4.1	QUERY OUTPUT	15
5.1	LOGIN PAGE	16
5.2	HOME PAGE	16
5.3	CREATIION OFNEW PROJECT	17
5.4	LIST OF TASKS	17
5.5	CREATION OF NEW USER PAGE	18
5.6	LIST OF USERS	19

CHAPTER 1

INTRODUCTION

In today's dynamic and interconnected work environment, effective collaboration is paramount for the success of complex projects. This project introduces a robust Project Collaboration Database designed to streamline communication, enhance organization, and optimize efficiency within collaborative initiatives.

The database incorporates a comprehensive suite of tools, including project management features, document repositories, task assignment functionalities, and real-time communication channels. Through a user-friendly interface, team members can easily access and contribute to shared resources, fostering a collaborative ecosystem.

Security measures are implemented to safeguard sensitive information, and regular training sessions ensure that team members can leverage the full potential of the collaboration database. The project's success is measured not only by its technological features but also by its contribution to improved project outcomes, increased team cohesion, and enhanced overall productivity.

This Project Collaboration Database serves as a valuable resource for project managers, team members, and stakeholders involved in collaborative endeavors. As organizations continue to embrace collaborative work models, the database stands as a testament to the power of technology in fostering innovation, communication, and successful project delivery.

1.1 Problem Statement

In contemporary project management scenarios, the absence of a centralized and cohesive collaboration platform poses significant challenges to the efficient execution and coordination of tasks. Traditional methods of communication and document management are often characterized by fragmentation, leading to delays, miscommunications, and a lack of real-time visibility into project progress. This fragmentation is exacerbated in projects involving geographically dispersed teams, intricate workflows, and a multitude of interconnected tasks. While numerous platforms offer various features for task management, communication, and file sharing, there remains a discernible gap in addressing the diverse needs of teams across different industries and project scales. These shortcomings include:

Communication Inefficiencies

- Document Management Complexity:
- Task Coordination and Monitoring:
- Scalability Concerns
- Security and Compliance

These challenges not only impede project efficiency but also contribute to increased project timelines, resource misallocation, and potential project failures. The need for a comprehensive Project Collaboration Database is evident, aiming to address these challenges and provide a unified platform that fosters streamlined communication, efficient task management, and enhanced collaboration.

1.2 Objectives of this project

This project endeavors to develop a solution that goes beyond addressing isolated issues. By comprehensively tackling communication inefficiencies, document management complexities, and task coordination challenges, the Project Collaboration Database aims to contribute to the broader discourse on optimizing collaborative work environments. The successful resolution of these challenges will not only enhance project outcomes but also pave the way for more agile, responsive, and scalable project management practices.

Some of the main objectives are:

- Enhance Communication Efficiency
- Optimize Task Management
- Improve Document Management
- Facilitate Real-time Collaboration
- Ensure Data Security and Compliance

The database will offer project dashboards for visibility and reporting, empowering stakeholders with insights into progress and performance. User-friendly interfaces and comprehensive training materials will drive user adoption, while stringent security measures and ongoing compliance protocols will safeguard sensitive project data against potential threats.

CHAPTER 2

SYSTEM REQUIREMENTS

HARDWARE REQUIREMENTS:

- Server
- Processor
- Memory (RAM)
- Storage

SOFTWARE REQUIREMENTS:

- Operating Systems
- Backup Software
- Encryption Tools
- XAAMP Server

CHAPTER 3

SYSTEM DESIGN

3.1 ER diagram

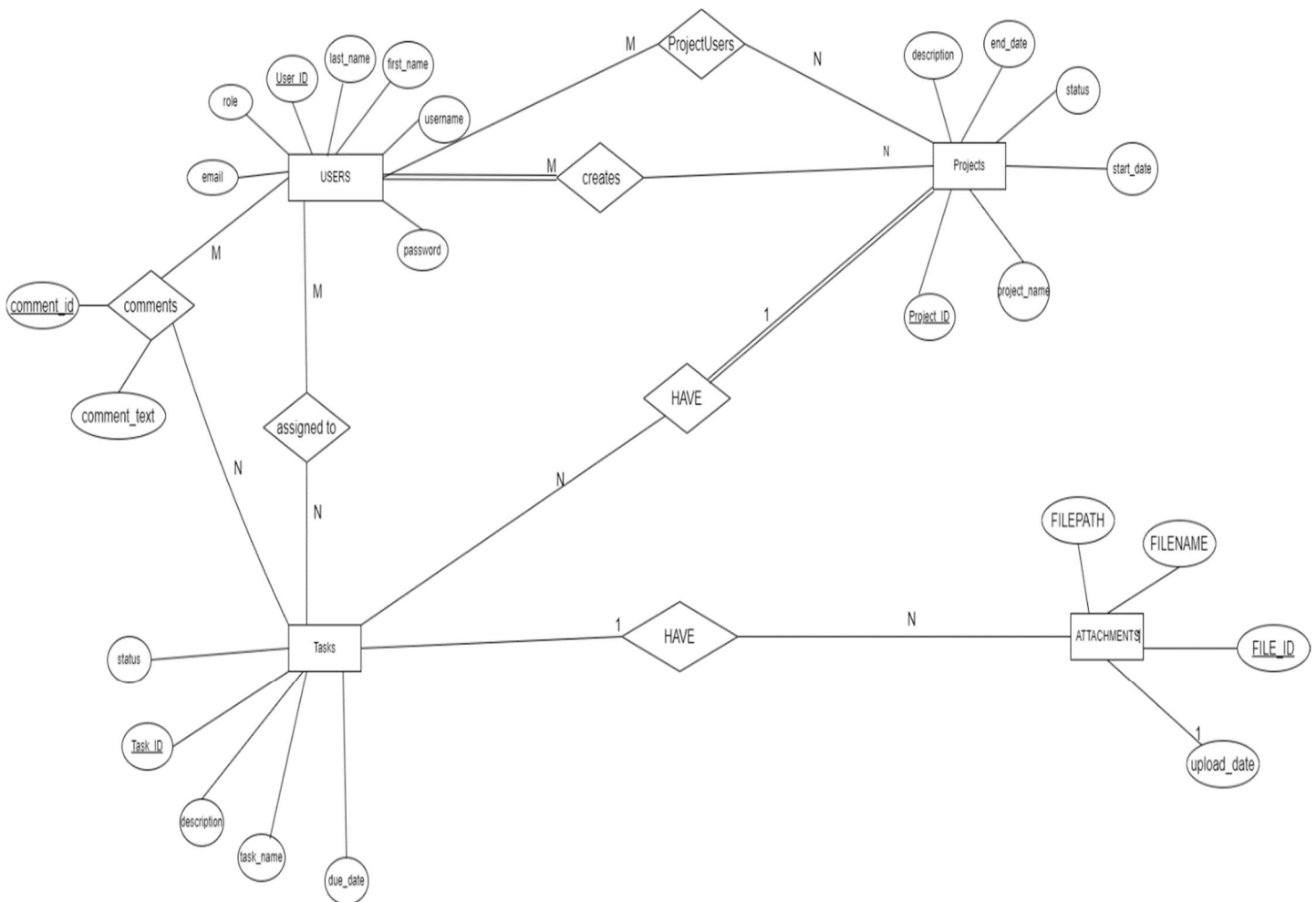


FIG 3.1 E/R DIAGRAM

3.2 SCHEMA

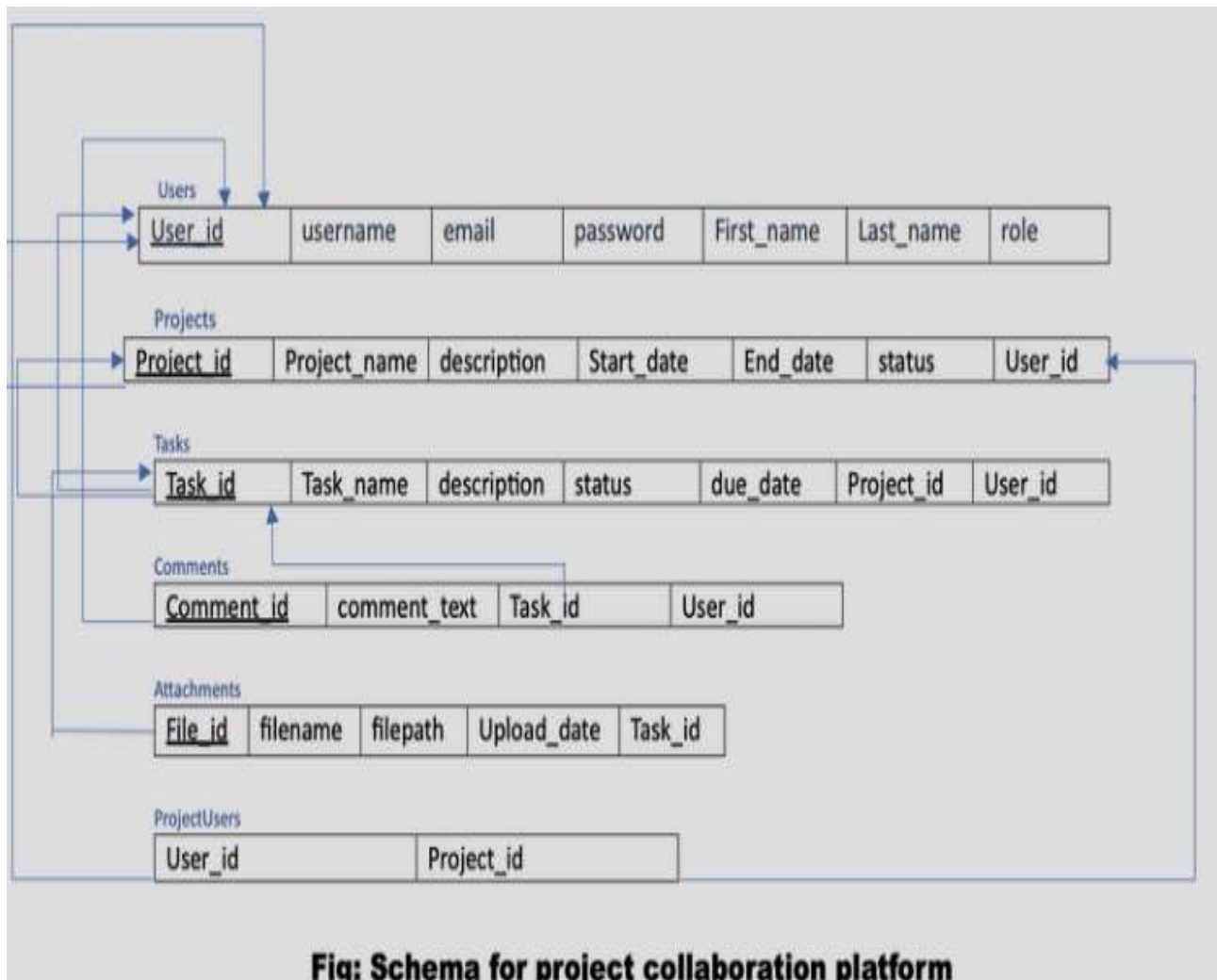


FIG 3.2

CHAPTER 4

SYSTEM IMPLEMENTATION

CREATION OF TABLES

Create database tms_db;

Use tms_db;

```
CREATE TABLE project (  
id int (30) NOT NULL primary key,  
name varchar (200) NOT NULL,  
description text NOT NULL,  
status tinyint (2) NOT NULL,  
start_date date NOT NULL,  
end_date date NOT NULL,  
manager_id int(30) NOT NULL,  
user_ids text NOT NULL,  
date_created datetime NOT NULL DEFAULT current_timestamp());
```

```
CREATE TABLE system_settings (  
id int(30) NOT NULL primary key,  
name text NOT NULL,  
email varchar(200) NOT NULL,  
contact varchar(20) NOT NULL,  
address text NOT NULL,  
cover_img text NOT NULL);
```

```
CREATE TABLE task (  
id int(30) NOT NULL primary key,  
project_id int(30) NOT NULL,  
task varchar(200) NOT NULL,  
description text NOT NULL,  
status tinyint(4) NOT NULL,  
date_created datetime NOT NULL DEFAULT current_timestamp());
```

```
CREATE TABLE users (  
id int(30) NOT NULL primary key,  
firstname varchar(200) NOT NULL,  
lastname varchar(200) NOT NULL,  
email varchar(200) NOT NULL,  
password text NOT NULL,  
type tinyint(1) NOT NULL DEFAULT 2 COMMENT '1 = admin, 2 = staff',  
avatar text NOT NULL DEFAULT ('no-image-available.png'),  
date_created datetime NOT NULL DEFAULT current_timestamp());
```

```
CREATE TABLE user_productivity (  
id int(30) NOT NULL primary key,
```

```

project_id int(30) NOT NULL,
task_id int(30) NOT NULL,
comment text NOT NULL,
subject varchar(200) NOT NULL,
date date NOT NULL,
start_time time NOT NULL,
end_time time NOT NULL,
user_id int(30) NOT NULL,
time_rendered float NOT NULL,
date_created datetime NOT NULL DEFAULT current_timestamp()
)

```

INSERT INTO TABLE:

```

INSERT INTO project (id, name, description, status, start_date, end_date, manager_id, user_ids,
date_created) VALUES
(1, 'Sample Project', 'sample pro', 0, '2020-11-03', '2021-01-20', 2, '35', '2020-12-03 09:56:56'),
(2, 'Sample Project 102', 'Sample Only', 0, '2020-12-02', '2020-12-31', 2, '3', '2020-12-03
13:51:54');

```

```

INSERT INTO system_settings (id, name, email, contact, address, cover_img) VALUES
(1, 'Task Management System', 'info@sample.comm', '+6948 8542 623', '2102 Caldwell Road,
Rochester, New York, 14608', '');

```

```

INSERT INTO task (id, project_id, task, description, status, date_created) VALUES
(1, 1, 'Sample Task 1', 'sample task 1', 0, '2020-12-03 11:08:58'),
(2, 1, 'Sample Task 2', 'Sample Task 2', 1, '2020-12-03 13:50:15'),
(3, 2, 'Task Test', 'Sample', 1, '2020-12-03 13:52:25'),
(4, 2, 'test 23', 'Sample test 23', 1, '2020-12-03 13:52:40');

```

```

INSERT INTO users (id, firstname, lastname, email, password, type, avatar, date_created)
VALUES
(1, " Administrator ", 'admin@admin.com', '0192023a7bbd73250516f069df18b500', 1, 'no-
image-available.png', '2020-11-26 10:57:04'),
(2, 'John', 'Smith', 'jsmith@sample.com', '1254737c076cf867dc53d60a0364f38e', 2,
'1606978560_avatar.jpg', '2020-12-03 09:26:03'),
(3, 'Claire', 'Blake', 'cblake@sample.com', '4744ddea876b11dcb1d169fadf494418', 3,
'1606958760_47446233-clean-noir-et-gradient-sombre-image-de-fond-abstrait-.jpg', '2020-12-03
09:26:42'),
(4, 'George', 'Wilson', 'gwilson@sample.com', 'd40242fb23c45206fadee4e2418f274f', 3,
'1606963560_avatar.jpg', '2020-12-03 10:46:41'),
(5, 'Mike', 'Williams', 'mwilliams@sample.com', '3cc93e9a6741d8b40460457139cf8ced', 3,
'1606963620_47446233-clean-noir-et-gradient-sombre-image-de-fond-abstrait-.jpg', '2020-12-03
10:47:06');
INSERT INTO user_productivity (id, project_id, task_id, comment, subject, date, start_time,

```

```

end_time, user_id, time_rendered, date_created) VALUES
(1, 1, 1, 'Sample Progress', 'sample pro', '2020-12-03', '08:00:00', '10:00:00', 1, 2, '2020-12-03
12:13:28'),
(2, 1, 1, 'Sample Progress', 'Sample Progress 2', '2020-12-03', '13:00:00', '14:00:00', 1, 1, '2020-
12-03 13:48:28'),
(3, 1, 2, 'Sample', 'Test', '2020-12-03', '08:00:00', '09:00:00', 5, 1, '2020-12-03 13:57:22'),
(4, 1, 2, 'asdasdasd', 'Sample Progress', '2020-12-02', '08:00:00', '10:00:00', 2, 2, '2020-12-03
14:36:30');

```

SOME QUERIES:

```

SELECT
  p.id AS project_id,
  p.name AS project_name,
  p.description AS project_description,
  p.status AS project_status,
  p.start_date AS project_start_date,
  p.end_date AS project_end_date,
  p.manager_id AS project_manager_id,
  GROUP_CONCAT(u.firstname, ' ', u.lastname) AS project_users,
  t.id AS task_id,
  t.task AS task_name,
  t.description AS task_description,
  t.status AS task_status,
  t.date_created AS task_date_created
FROM project p
LEFT JOIN
  task t ON p.id = t.project_id
LEFT JOIN
  users u ON FIND_IN_SET(u.id, p.user_ids)
GROUP BY p.id, t.id
ORDER BY p.id, t.id;

```

OUTPUT

project_id	project_name	project_description	project_status	project_start_date	project_end_date	project_manager_id	project_users	task_id	task_name	task_description	task_status	task_date_create
1	Sample Project	sample pro	0	2020-11-03	2021-01-20	2	NULL	1	Sample Task 1	sample task 1	0	2020-12-03 11:08
1	Sample Project	sample pro	0	2020-11-03	2021-01-20	2	NULL	2	Sample Task 2	Sample Task 2	1	2020-12-03 13:50
2	Sample Project 102	Sample Only	0	2020-12-02	2020-12-31	2	Claire Blake	3	Task Test	Sample	1	2020-12-03 13:52
2	Sample Project 102	Sample Only	0	2020-12-02	2020-12-31	2	Claire Blake	4	test 23	Sample test 23	1	2020-12-03 13:52

FIG 4.1 QUERY OUTPUT

CHAPTER 5

OUTPUT SCREENSHOTS

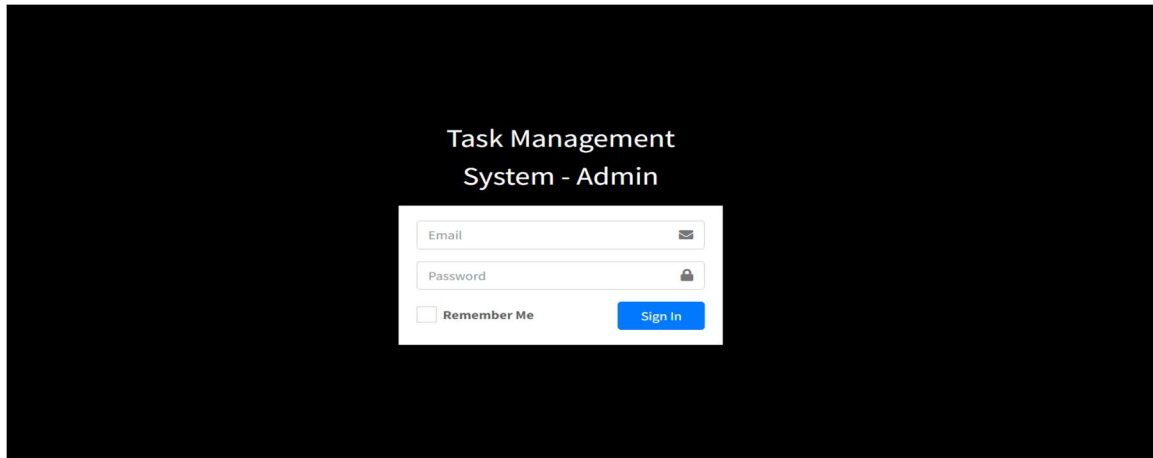


Fig 5.1 Login page

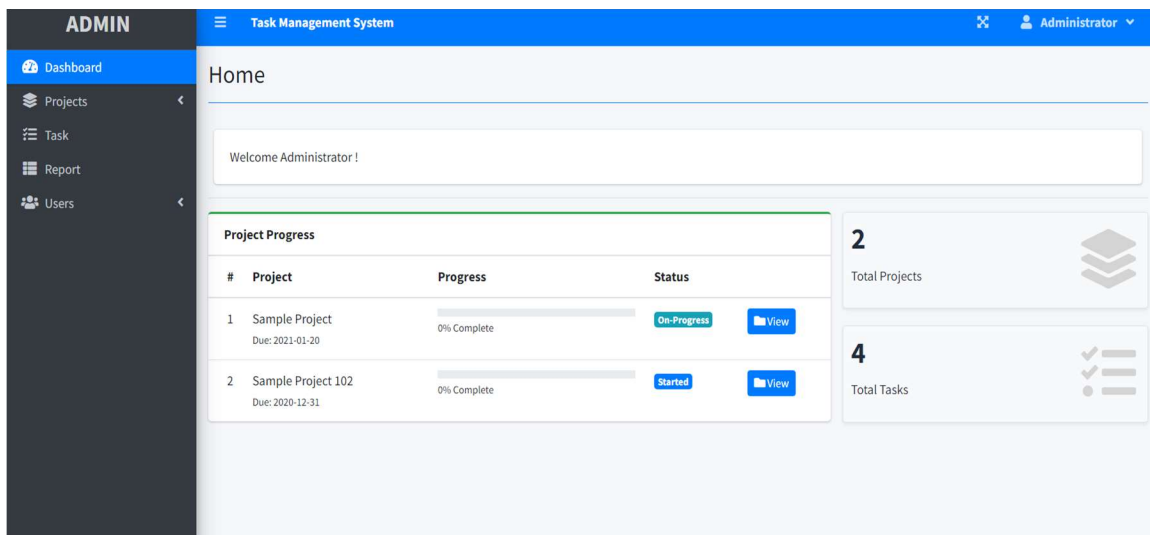


Fig 5.2 home page

New User

First Name

Last Name

User Role

Employee

Avatar

Choose file

Browse

Avatar

Email

Password

Confirm Password

Save

Cancel

Fig 5.5 to create a new user page

User List

Show

10

entries

Search:

+ Add New User

#	Name	Email	Role	Action
1	Administrator	admin@admin.com	Admin	Action
2	Claire Blake	cblake@sample.com	Employee	Action
3	Deepa S	deepadeeps204@gmail.com	Employee	Action
4	George Wilson	gwilson@sample.com	Employee	Action
5	John Smith	jsmith@sample.com	Project Manager	Action
6	Mike Williams	mwilliams@sample.com	Employee	Action

Fig 5.6 list of users

CHAPTER 6

CONCLUSION

The project established a robust “**PROJECT COLLABORATION MANAGEMENT**” using a MySQL database to efficiently handle project-related information. It comprised multiple interlinked tables such as 'project', 'task', 'users', 'system_settings', and 'user_productivity', each serving distinct purposes within the system. The 'project' table stored project details, 'task' table managed individual tasks associated with projects, 'users' table maintained user information, 'system_settings' stored system-specific configurations, and 'user_productivity' tracked user productivity metrics. Triggers were utilized to automate certain tasks, such as updating project status upon task completion. Queries were structured to retrieve comprehensive project and task details, facilitating streamlined information retrieval. Overall, the database structure provided a solid foundation for efficient project and task management, allowing for scalable and adaptable functionalities to accommodate evolving project needs and enhance team productivity.